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Colorado Department
of Public Health
and Environment

July ?5 1994

Mr Steven W Slaten
U S Department of Ener_v
Rocky Flats Office
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RE Draft Solvent Extraction Treatabilitv Studv Work Plan

Dear Mr Slaten

The Colorado Department of Public Health and Environment Hazardous Materials and Waste Management Division (the Division) has reviewed the above referenced document and is providing the attached comments

The Division has learned that DOE has already commenced work on this treatabilitv study without agencv concurrence on the Work Plan Fortunatelv most of our comments are minor and should not have significant impact on the success of the studv However the Divis;on remains concerned about the experimental test sequence (see attached comment #4) and its inabilitv to provide enough information to select an optimized process DOE s unilateral decision to proceed with this studv s implementation may risk that portion of the Work Plan s objectives

If vou have anv questions regarding these matters please ?all Dave Norburv at 69? 415

Sincerelv

Joe Schieffelin Unit Leader
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ADMIN RECORD

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Colorado Department of Public Health and Environment
Comments
Draft Solvent Extraction Treatability Study Work Plan

1) Section 1.2 The Division questions the need for two separate soil sample no justification is provided to support the need The treatability study seeks to answer the question will solvent extraction be effective in remediating radionuclide contaminated soil? It seems this question can be adequately answered with one well chosen sample If a good reason exists to run more than one soil matrix through the treatment needs to be provided in the Workplan

2) Figure 2.1 Are nine sample locations required? The key measurement points are at the input (sample location 1 feed) and output (locations 5 7 8 and 9) stages of the flow schematic The test objectives listed in Section 1.0 can still be met at lower costs without the extensive intermediary sample locations proposed in the Figure

3) Table 1 Where did the TSBs for gross alpha gross beta and total uranium come from The Division is not aware of any soil standards outside of the draft PRG effort referenced for the plutonium and americium values

4) Section 4.2 Each unique feed matrix is to be subject to five test runs one with the standard conditions and four with modifications to the standard conditions The text suggests evaluating plutonium removal as a function of as many as seven variables This will be impossible to do in four test runs

DOE has to make a choice between keeping the experimental design simple with only one or two key input parameters varying over four runs or committing the resources necessary to adequately characterize the effects of multiple process variables Previous experimental designs under the DOE Treatability Study Program have suffered from the same flaw of trying to examine too many variables in a study of limited scope (and budget) As described the Phase I tests will not be able to provide the information necessary to select the apparent optimized process proposed for Phase II tests

5) Section 4.2 What is the justification for (and advantages of) the 150 F extraction stage The treatment technology description (Section 2.0) suggests that triethylamine is immiscible with water above 140 F

6) Table 4 See comment 2

7) Table 6.1 Since the detection limits are not provided the Division can only assume the analytical methods will be sufficient to meet the TSBs presented in Table 1

8) Table 6.2 Of all the possible measurement endpoints the dried treated solids are one of the most important However no analysis is proposed for dried treated solids in this Table s analytical requirements

9) Section 1.2.0 Can the tests for different sample types be run concurrently? The schedule suggests needing 0 days for Phase I tests when each sample type requires only 10 days

The Division did not review Appendices A and B (Health and Safety Plan Quality Assurance Addendum)

PRELIMINARY OUTLINE
OU 2 SVE TECHNICAL MEMORANDUM #4

Introduction
- Project background and objectives of pilot testing at Test Site No 1 and Test Site #2
- Purpose of TM #4
  - Provide site conceptual model constructed of available data for IHSS 110
  - Identify additional data needs to ensure a successful design and implementation of Pilot Test Site #2

Overview of Available Data on Site Conditions of IHSS 110 (TM #1 referenced with presentation of knowledge gained since)

- Geology (taken from TM 3)
- Hydrogeology
- Nature and Extent of Contamination

Construct/Present Site Conceptual Model Based on Available Data (from RFI/RI and results from Pilot Test No 1)

Identify Additional Data Requirements to Provide a Basis of Design for Six phase Heating at Pilot Test Site #2

- Data needs
- Sampling requirements
- Physical testing needs
- Additional 3D data for Dynamic Graphics
- Evaluate DQOs
- Define how to obtain data to meet DQOs

Schedule Requirements

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